

# FIGURE 1

(a) Chimeric oligonucleotide  
(Double modification: RNA residues between two modifications being made)

CGCGATCTCCGAIGCCAATCCCGTCCTTGCACACAGCTCTTTTACAGCUGCUGCACAGACCGCAUUGCGATTCAGCAUCCCCCGCTTTTCGGC

(b) Active oligonucleotide conformation

TCGGCC-ccccuacgacctTAGCGuacgCCAGGAcugucgacat  
T T  
T T  
TCGGCC CGGAAATGCTCGAAIGCCAATCCCGTCCTTGCACAGCAAGCTCTT  
GlyAsnAlaGlyTleAlaMetArgSerLeuThrAlaAlaVal

# FIGURE 2

(a) Chimeric oligonucleotide  
(Double Modification: DNA residues between two modifications being made)

5' GGGGATGCTGGAATGGCATGCCGTCCTTGACAGCAGCTGTTTaaagcugcugucAAAGACCGCATTGCCATTccagcauuccccccgCGCTTTTGGCCC

(b) Active oligonucleotide conformation

TCGGCG - ccccuacgacctTAGCGTTACGCCAGCAGcugcugacat	
T	T
T	T
TCGGCG GGGGATGCTGGAA <u>TGGCA</u> TGCCGTCCTTGACAGCAGCTGTT	
GlyAsnAlaGlyIleAlaMetArgSerLeuThrAlaIleVal	

# FIGURE 3

(a) Chimeric oligonucleotide  
(Single modification: Thr => Ile being made)

5' CGAATGCTGGAATGCAATGCGCCATTTTuggcgcgaauGCCATTccagcauuccGCCGCTTTTCGGCC

(b) Active oligonucleotide conformation

TCGGCC-ccuua<sup>T</sup>cgac<sup>T</sup>TTAGCGuua<sup>T</sup>cyccg<sup>T</sup>u<sup>T</sup>  
 TCGGCC CGAATGCTGGAATGCAATGCGCCAT<sup>T</sup>  
 AsnAlaGlyIleAlaMetArgPro

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# FIGURE 4

(a) Chimeric oligonucleotide  
(Single modification: Pro => Ser being made)

5' ACTGCAATCCCGTCGTTGACACGACGCTTTTtagcugcugucAAGACGgcauugcagugCCCGCTTTTCGCCC

(b) Active oligonucleotide conformation

TCCCGC-ugaguuagccAGGAgucgucgAT  
 T  
 T  
 TCGCGC ACTGCAATCCCGTCGTTGACACGACGCTT  
 T  
 ThrAlaMetArgSerLeuThrAlaAla

**FIGURE 5**

(a) Chimeric oligonucleotide  
(Single modification: Ser => Asn being made)

5'CTATGATCCCTAATGGTGGGCTTTTTTTaaagccccaccATTAgggaucauagGCGCGTTTTCGGCGC

(b) Active oligonucleotide conformation

TGCGCG-gauacuagggATTACcaccocgaaAT  
T T  
T T  
TCGGCG CTATGATCCCTAATGGTGGGCTTTT  
5' MetIleProAsnGlyAla

FIGURE 6

(a) Chimeric oligonucleotide  
(Single modification: Pro => Ala being made)

5' ACGGACAGGTGGCCCGACGCATGATTTTccaugcgucGCGCAccuqucccguGCGGTTTTCGCGC

(b) Active oligonucleotide conformation

TGCGCG-ugcccuquccACCGCgcuqcguactT  
T T  
T T  
TCGCGC ACGGACAGGTGGCCCGACGCATGAT  
5' ThrGlyGlnValAlaArgMet

(a) Chimeric oligonucleotide  
(Single modification: *Ter* => Tyr being made)

5' GACGCAGATCTAGCTACCACTGCTCCTTTTggacgauguaGCTAgaucugcgcGCCGTTTTCGGCC

(b) Active oligonucleotide conformation

TGGCGC-cugcgucuagATGCAugnaugcaggt  
T T  
T T  
TCGGCG GACGCAGATCTAGCTACCACTGCTCCT  
5'ThrGlnIleTyrValProSerSer

[illegible]

FIGURE 8

(a) Chimeric oligonucleotide

5' GGAATGCTGGATTGCAATGCGGTCATTGACAGTTTcugucaaugaccgcauugCAATccagcauuccgCGCTTTTCGCGC

(b) Active oligonucleotide conformation

TGCGCG - ccuuacgaccttaacguuacgCCAGUaacuguct  
T T T  
T T T  
TCGCGC GGAATGCTGGATTGCAATGCGGTCATTGACAGT  
AsnAlaGlyIleAlaMetArgSerLeu

One nucleotide modification (underlined) at each of two amino acid targets (bold) in maize EPSPS gene; first target region within RNA, second target region within DNA.



FIGURE 9

(a) Chimeric oligonucleotide

5' GGAATGCTGGATTGCAATGCGGCTTTTggccgcauugCAATccagcauuccGGCGTTTCGGCC

(b) Active oligonucleotide conformation

TCGCGC-ccuucgacctTAACguuacgcccgt  
T T  
T T  
TCGCGC GGAATGCTGGATTGCAATGCGGCT  
AsnAlaGlyIleAlaMetArgPro

One nucleotide modification (underlined) at one amino acid target (bold).

FIGURE 10

(a) Chimeric oligonucleotide

5' ACTGCATGCGGTCATGACAGCAGTTTTCUGCUGUCAATGACCGCAUUGCAGUGCGGTTTCGGCC

(b) Active oligonucleotide conformation

TGCGCG-UGACGUUACGCCAGTACUGUCGUCT  
T T  
T T  
TCGGCG ACTGCATGCGGTCATGACAGCAGT  
ThrAlaMetArgSerLeuThrAla

One nucleotide modification (underlined) at one amino acid target (bold).

FIGURE 11

(a) Chimeric oligonucleotide  
(Single modification: Ser => Asn being made)

5' CTAATGATCCCTAATGATGGGGCTTTTTTTaaagcccccaCATTAagggaucanagGCGGTTTTCGGCC

(b) Active oligonucleotide conformation

TGCGCG-gauacuagggATTACcaccocgaat  
 T T  
 TCGCGC CTATGATCCCTAATGTTGGGCTTTT  
 T  
 5'MetilleproasnnglylylaA

FIGURE 12

(a) Chimeric oligonucleotide  
(Single modification: Pro => Ala being made)

5'ACGGACAGGTGGCGGACGCATGATTTTcaugcguccGCCAaccuucccgucGGGTTTTCGGCC

(b) Active oligonucleotide conformation

          TGGCGC-ugcccuuccACCGCgcuugcuactT<sub>T</sub>  
          T<sub>T</sub>  
          TCGGCGC  ACGGACAGGTGGCGGACGCATGAT<sub>T</sub>  
          5'ThrGlnValAlaArgMet

FIGURE 13

(a) Chimeric oligonucleotide  
(Single modification: *Ter* => *Tyr* being made)

5' GACCGAGATCTACGTCACACATCCTTTTgagacgaauguaACGTAgaaucaugcuaacccacgTTTTCGCC

(b) Active oligonucleotide conformation

TGCGCG-cugcgucuaGATGCauGuaGuaGcaGTT  
 T T T  
 TCGCCG GACGCAGATCTACGTACCATCTGCTCT  
 T T T  
 5'ThrGlnIleTyrValProSerSer